

Epidemiology of Patients meeting the South Carolina Prehospital Sepsis Care Protocol

Jason Walchok, NRP, FP-C

STEMI, Stroke, & Sepsis Coordinator,

SC Bureau of EMS



Co-Authors

- SC Bureau of EMS
 - Rob Wronski, MBA, NRP
 - Arnold Alier, EdD, NRP
- EMS Performance Improvement Center
 - Sean Patrick Kaye, BA, EMT-P
 - Michael Mastropole, BS, EMT-B
 - Jennifer K. Wilson, BS, EMT-B
 - Antonio R. Fernandez, PhD, NRP, FAHA

Introduction



Prehospital Emergency Care



ISSN: 1090-3127 (Print) 1545-0066 (Online) Journal homepage: <http://www.tandfonline.com/loi/ipec20>

Paramedic-Initiated CMS Sepsis Core Measure Bundle Prior to Hospital Arrival: A Stepwise Approach

Jason G. Walchok NRP, FP-C, Ronald G. Pirrallo MD, MHSA, FACEP, Douglas Furmanek PharmD, BCPS, Martin Lutz MD, FACEP, Colt Shope BSN, RN, Brandi Giles APRN, Greta Gue MSN, RN & Aaron Dix MBA, NRP

To cite this article: Jason G. Walchok NRP, FP-C, Ronald G. Pirrallo MD, MHSA, FACEP, Douglas Furmanek PharmD, BCPS, Martin Lutz MD, FACEP, Colt Shope BSN, RN, Brandi Giles APRN, Greta Gue MSN, RN & Aaron Dix MBA, NRP (2016): Paramedic-Initiated CMS Sepsis Core Measure Bundle Prior to Hospital Arrival: A Stepwise Approach, Prehospital Emergency Care, DOI: [10.1080/10903127.2016.1254694](https://doi.org/10.1080/10903127.2016.1254694)

To link to this article: <http://dx.doi.org/10.1080/10903127.2016.1254694>



History:

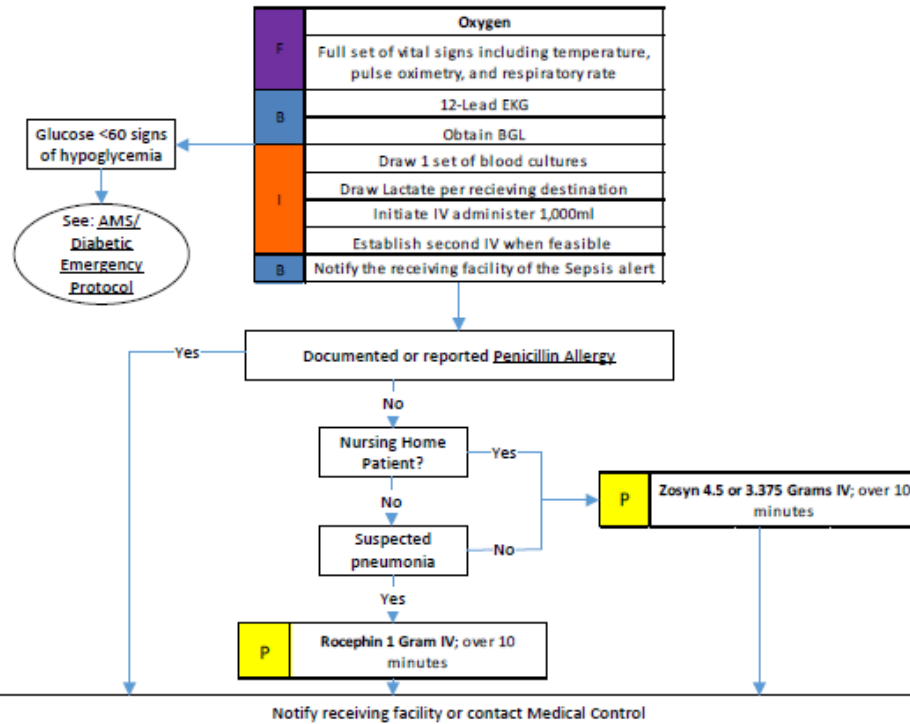
- Age > 18 Years
- Duration of fever
- Severity of fever
- Altered mental status
- Past medical history
- Medications
- Immunocompromised
 - Transplant
 - HIV
 - Diabetes
 - Cancer
- Environmental exposure
- Last Acetaminophen or Ibuprofen

Significant Findings:

- Hyperthermia (>101°F/38°C)
- Hypothermia (<96.8°F/36°C)
- Tachypnea (> 20 bpm, or mechanical)
- Tachycardia (> 90 Bpm)
- Acute mental status change
- Urinary tract infection
- Pneumonia
- Skin/soft tissue infection
- Abdominal infection
- Wound infection
- Suspected meningitis, endocarditis or osteomyelitis

Collecting Cultures:

- Maintain aseptic technique at all times
- Put on a new set of clean gloves
- Prepare site with Chloraprep
 - Clean 2 inch site
 - Allow site to dry
 - Do not touch once cleaned
- Remove cap from culture bottles
- Clean bottle diaphragm with alcohol
 - Allow to dry
- Venipuncture and draw blood
- Add 5-10ml of blood in each bottle
 - Aerobic (BLUE/GRAY) first
 - Anaerobic (PURPLE) second



Medical

PEARLS:

- If unable to obtain cultures, do not administer antibiotics
- Determine the hospital destination (SFHS or GHS) prior to drawing cultures. Use the appropriate kit.
- Utilize Sepsis Checklist
- **Septic shock** - Hypotension (SBP <90) refractory to fluid bolus (30ml/kg NS), Consider Dopamine 5-20 mcg/kg/min
- Be alert for signs of anaphylaxis during antibiotic administration
- A second liter of Normal Saline can be administered for septic shock
- Extended scene times to provide antibiotic therapy are acceptable
- Withhold antibiotics if suspect meningitis, endocarditis, or osteomyelitis
- Zosyn should be administered to all nursing home patients who meet sepsis alert criteria without a PCN allergy regardless of the source.



Introduction

EMS EVALUATION AND TREATMENT OF SEPSIS – TOOL

Date:	EMS Arrival Time:	Unit #:
Lead Medic:		Culture Drawn by:

Evaluation for Sepsis:

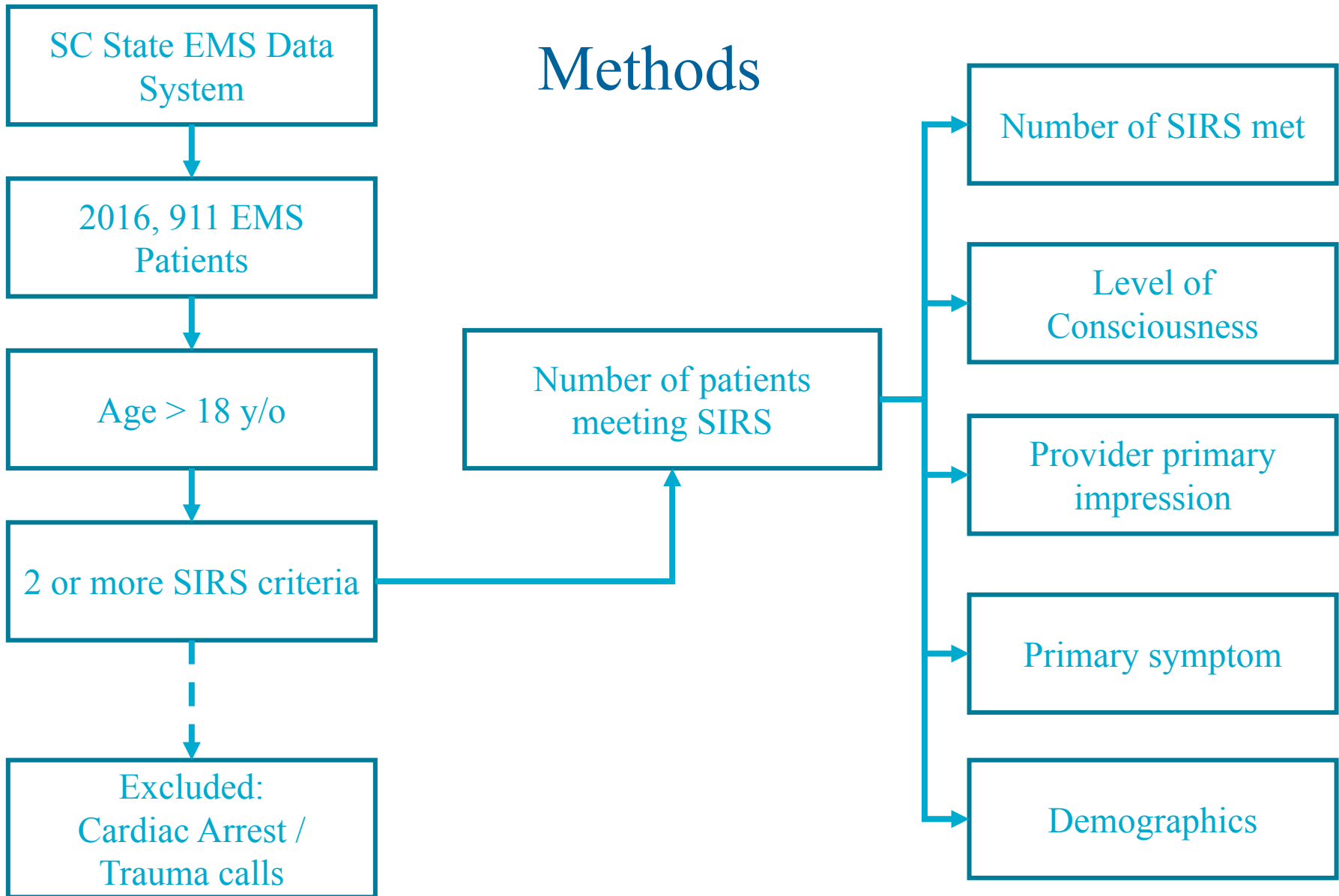
- Are any two of the following symptoms present AND new to the patient?
 - Hyperthermia (> 101° F or 38° C) or Hypothermia (< 96.8° F or 36° C)
 - Heart Rate > 90 beats per minute
 - Respiratory Rate > 20 breaths per minute OR Mechanical Ventilation
 - Signs of poor perfusion (such as SBP < 90 mmHg)
- Is the patient's presentation suggestive of any of the following infections?
 - Pneumonia (cough/thick sputum)
 - Urinary Tract Infection
 - Acutely AMS / change
 - Blood stream / Catheter related
 - Abdominal pain and/or diarrhea
 - Wound Infection
 - Skin / Soft Tissue Infection

Glucose	
Result:	mg/dL
Normal Range 80 – 120 mg/dL	
Temperature	
Result:	

If positive for sepsis, call a **SEPSIS ALERT** and follow the directions on the below:

Objective

- To quantify the number of 2016 emergency 911 patients in South Carolina (SC) that would meet the newly developed prehospital sepsis care protocol.
- To describe the identified patients based on patient demographics and incident location community size.

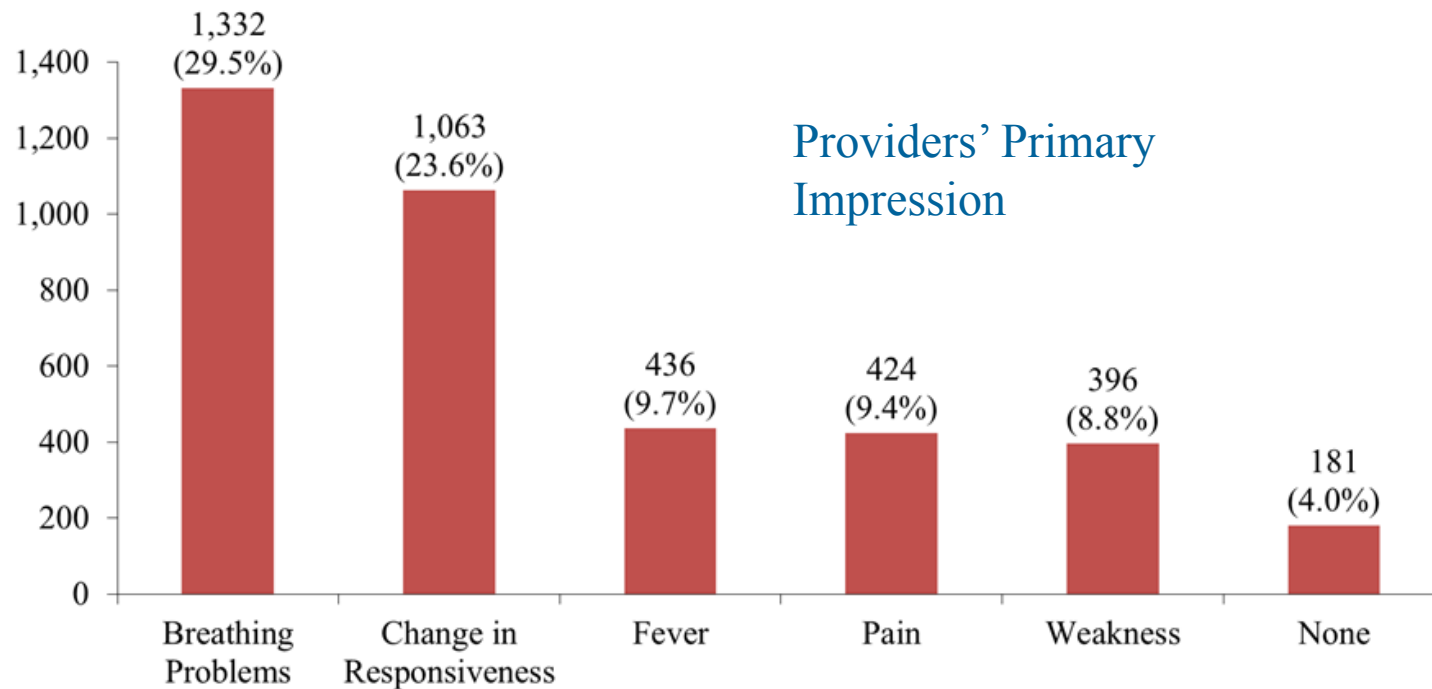


Methods

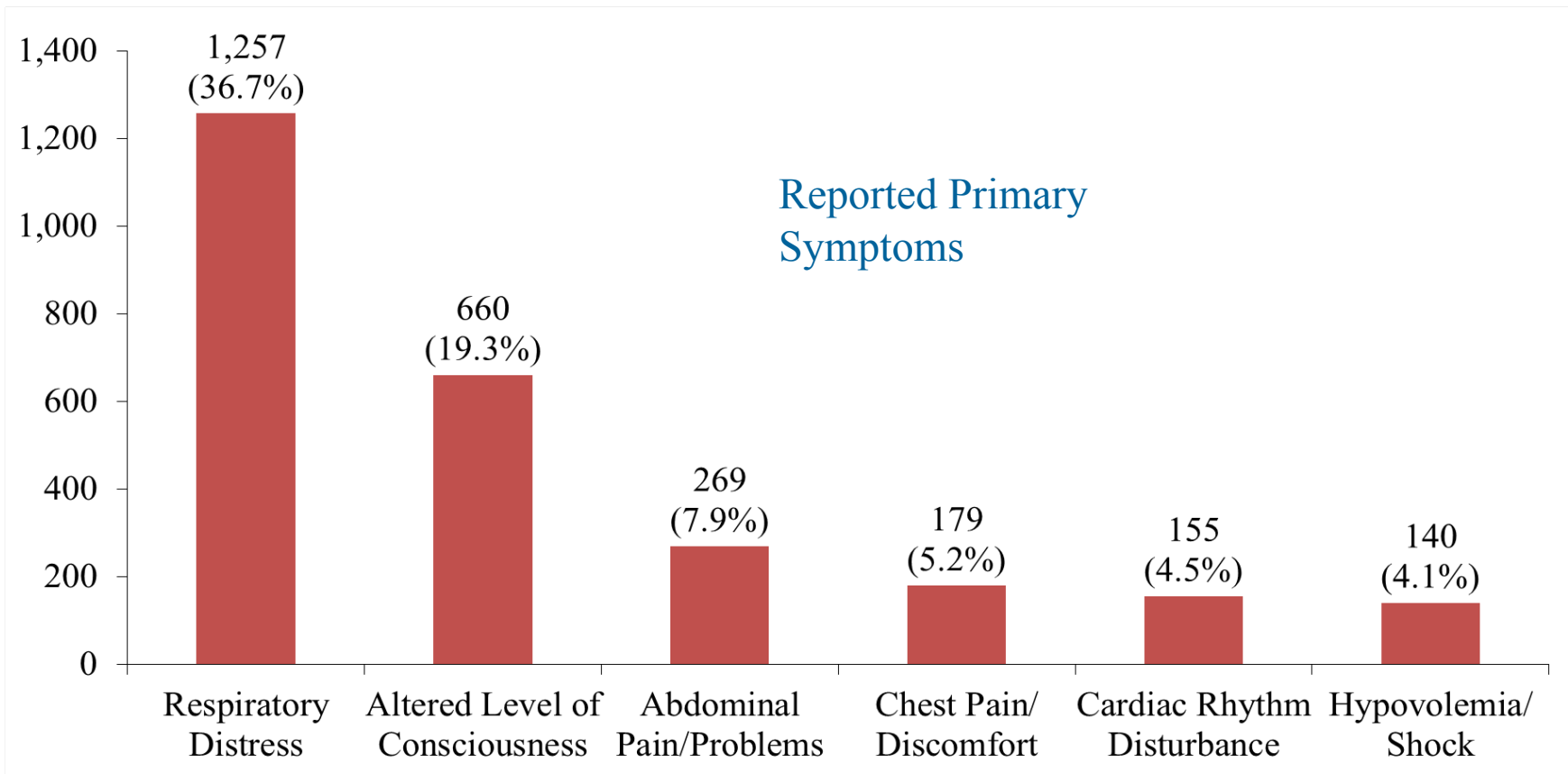


Results

- 5,155 patients met SIRS criteria



Reported Primary Symptoms

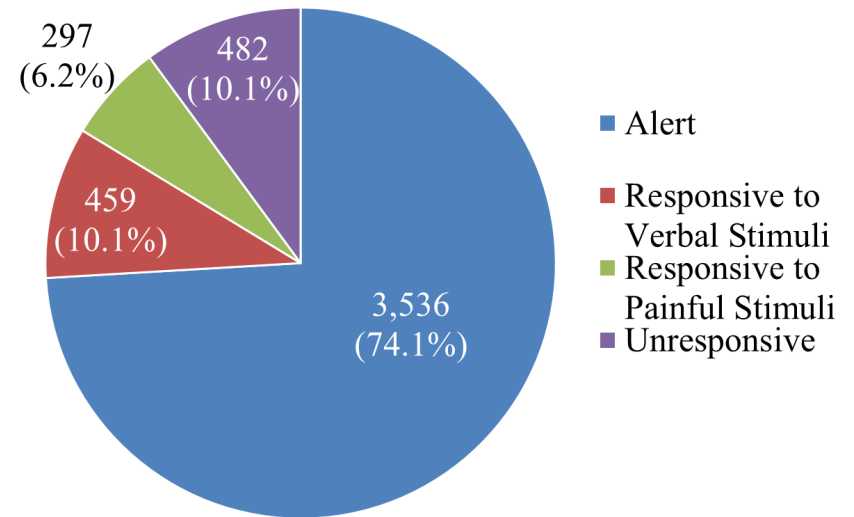


Demographics

n= 5,155

Age: range 18-116 years			mean 63.1
Sex:	Number	Percent	
Female	2,596	50.5	
Male	2,548	49.5	
Race:			
White	3,552	70.3	
Black	1,440	28.5	
Other	64	1.3	
Not Hispanic or Latino			98.4
Receiving Location:			
Urban	4,534	88.5	
Rural	587	11.5	
SIRS Criteria:			
2 of 4	4,831	93.7	
3 of 4	317	6.2	
4 of 4	7	0.1	

Patient alertness encountered by EMS



Limitations

- Using NEMESIS v2 data elements, it was not possible to determine a present source of infection which is required for the SC sepsis protocol.
- Being a retrospective review from a large geographical area, the consistency of provider documentation and assessment could not be verified.

Conclusion

- Respiratory distress was the primary patient presentation when SIRS criteria was used as a screening tool for septic patients in the prehospital setting.
 - Directed education - Pulmonary source of sepsis
 - ABX selection

CONTACT US

Jason Walchok, NRP, FP-C
STEMI, Stroke, & Sepsis Coordinator,
SC Bureau of EMS

walchojg@dhec.sc.gov

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